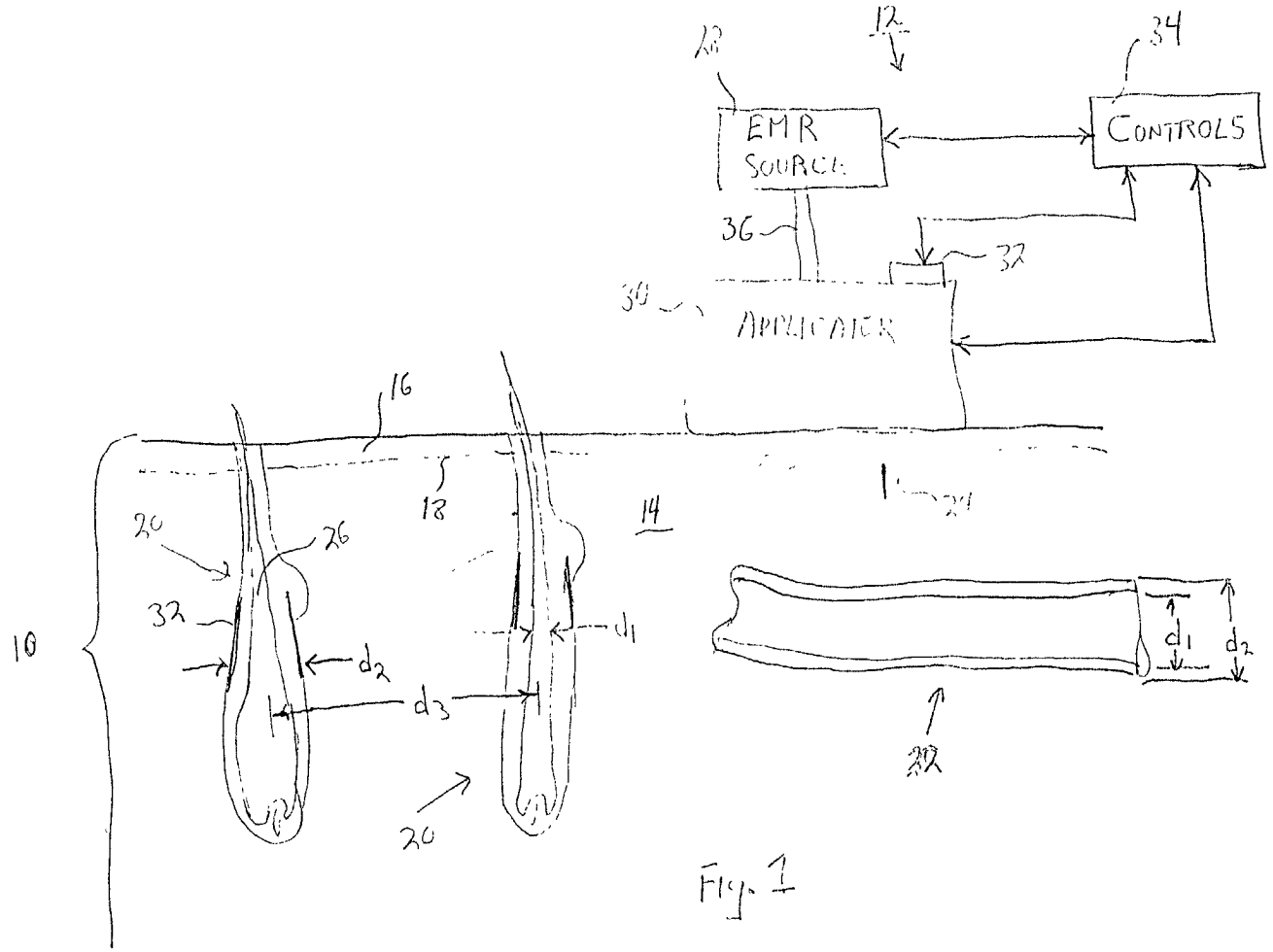

12
34
EMR SOURCE
CONTROLS
36
32
30
APPLICATOR
16
18
14
24
20
26
32
10
d_1
d_2
d_3
20
d_1
d_2
22

Fig. 1

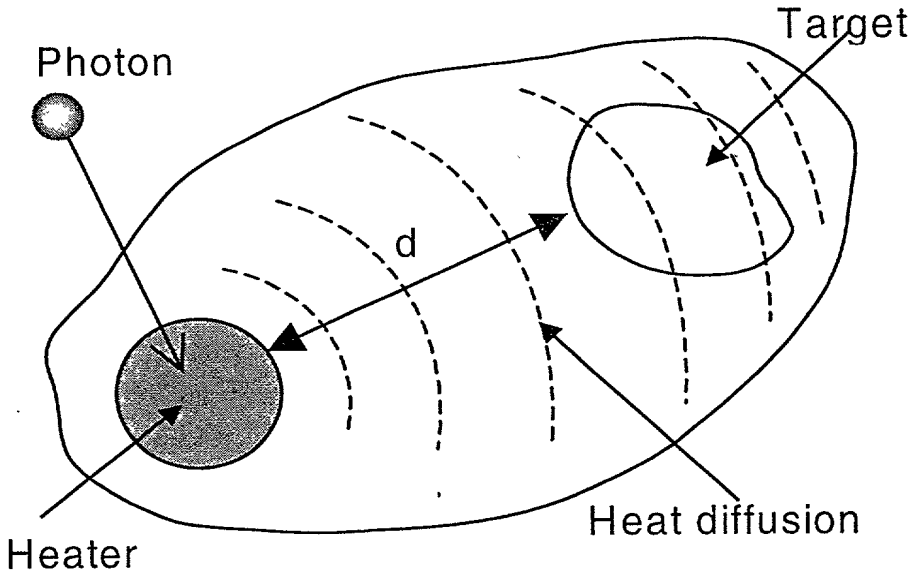


Fig. 3

US 6,090,102

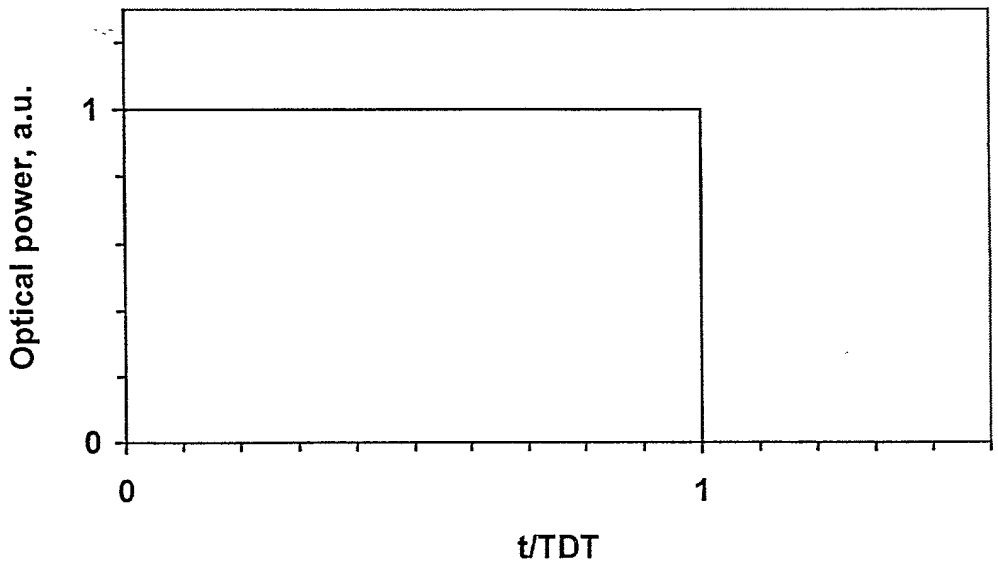

Optical power, a.u.
1
0
0
1
t/TDT

Fig. 3a

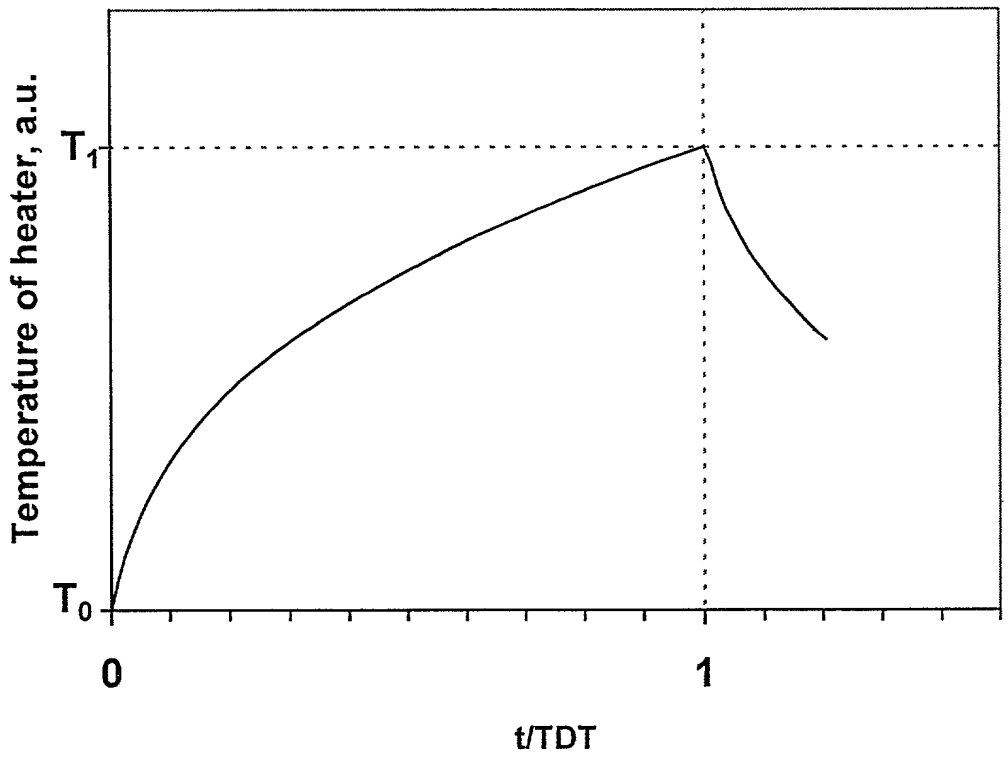

Temperature of heater, a.u.
T1
T0
0
1
t/TDT

Fig. 3b

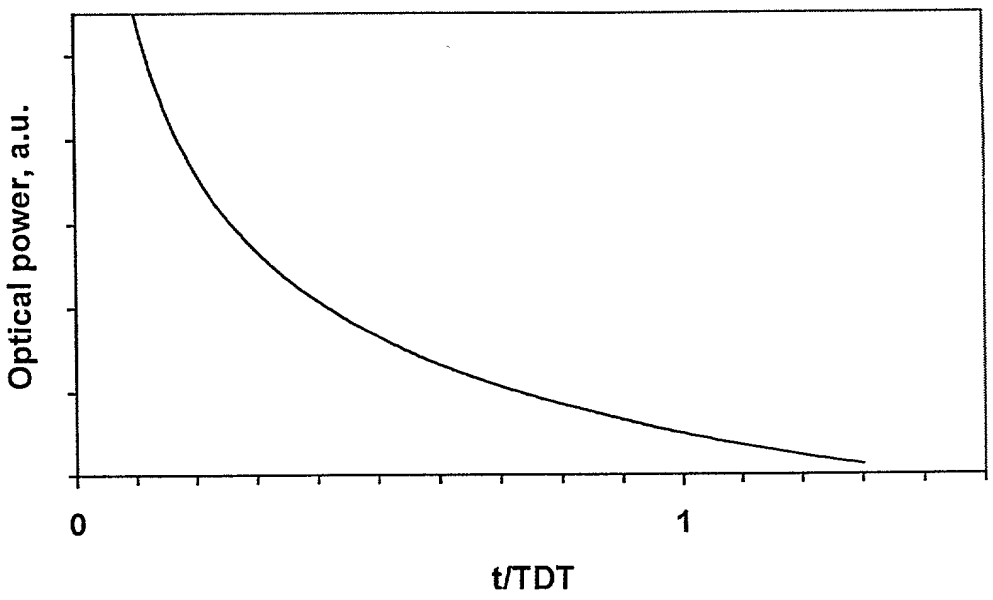

Optical power, a.u.
0
1
t/TDT

Fig. 3c

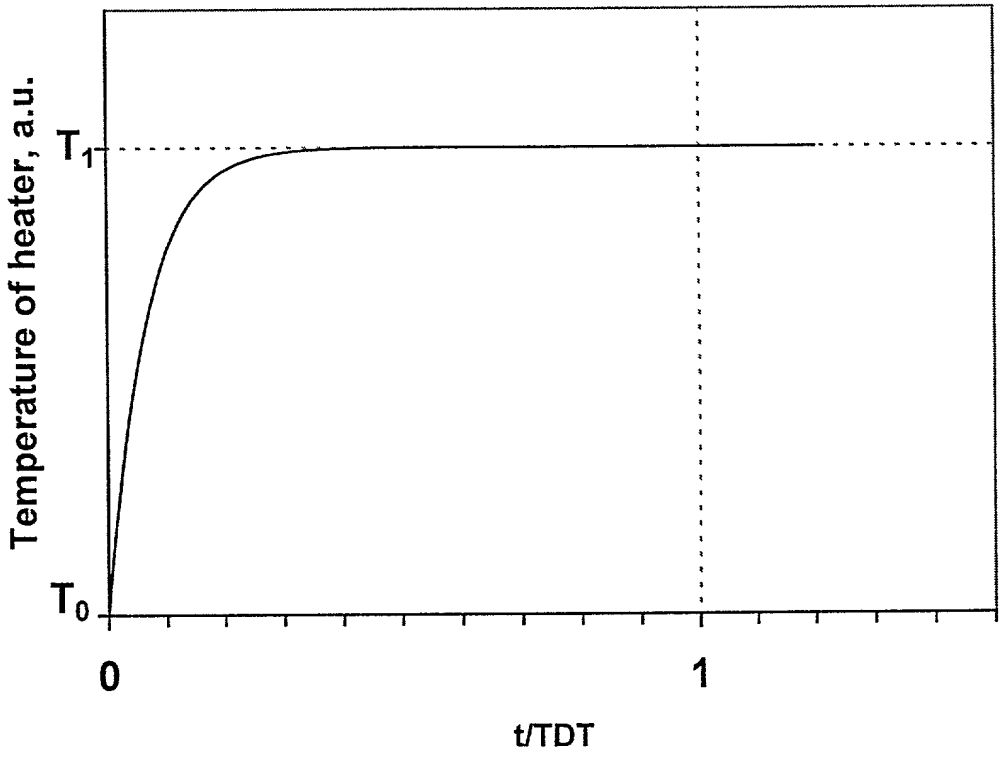
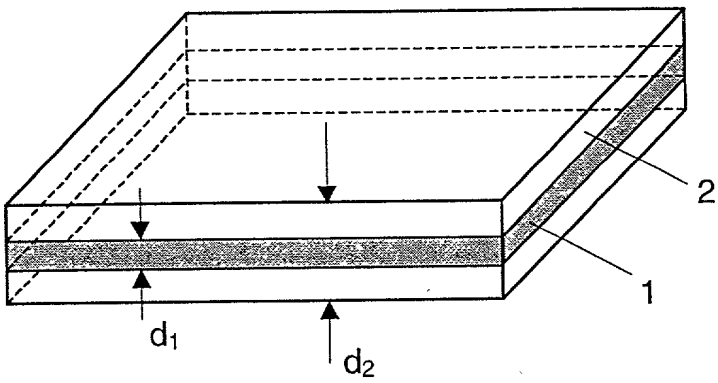
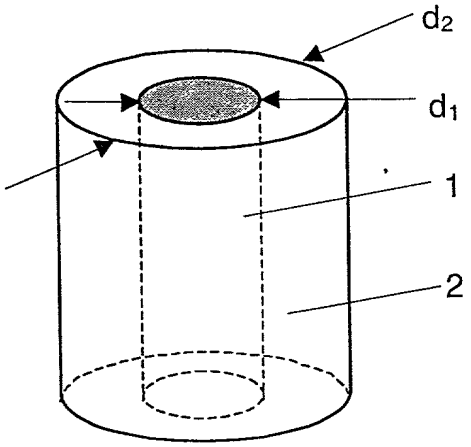

Temperature of heater, a.u.
T1
T0
0
1
t/TDT

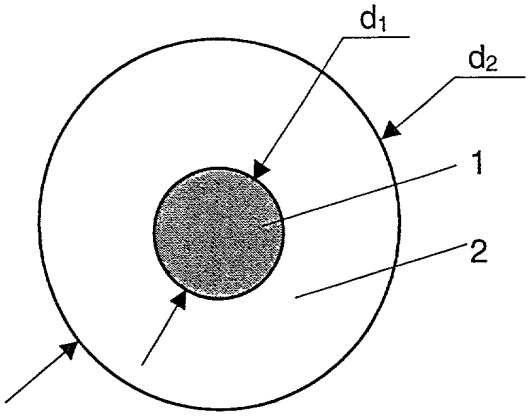
Fig. 3d



(a)



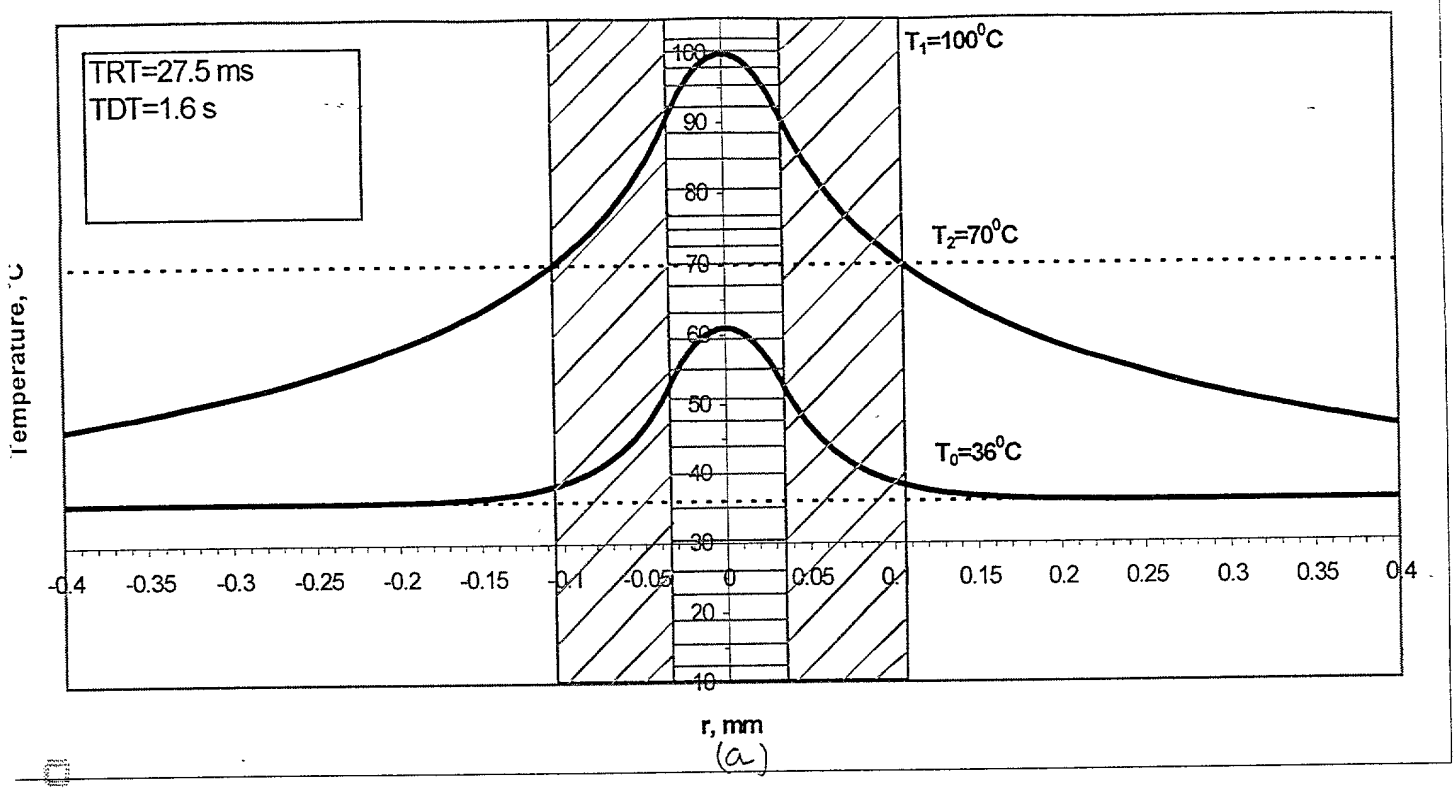
(b)



(c)

Fig. 4

EP 0 898 950 B1


TRT=27.5 ms
TDT=1.6 s
T_1=100°C
T_2=70°C
T_0=36°C
Temperature, °C
r, mm
(a)

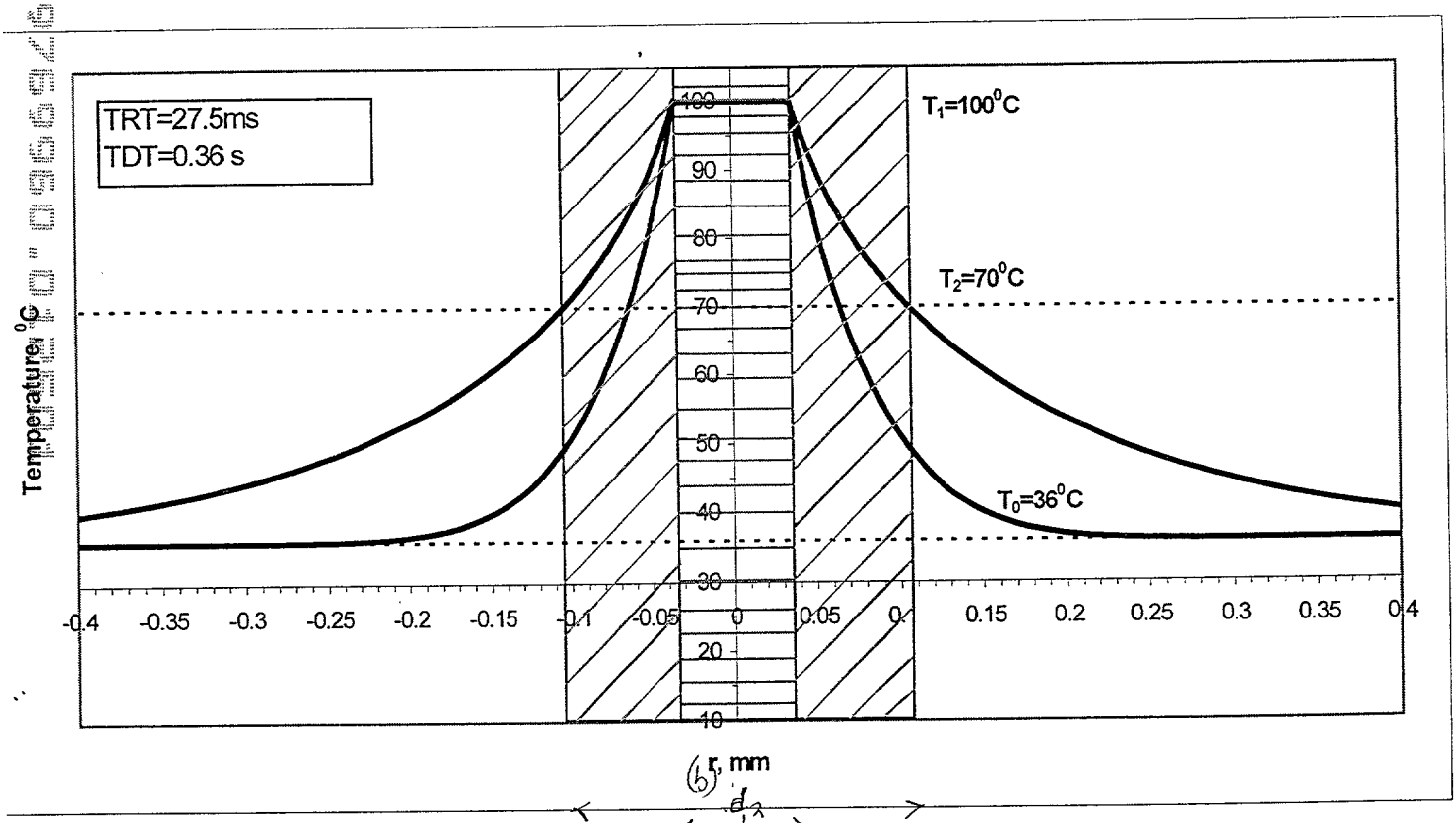
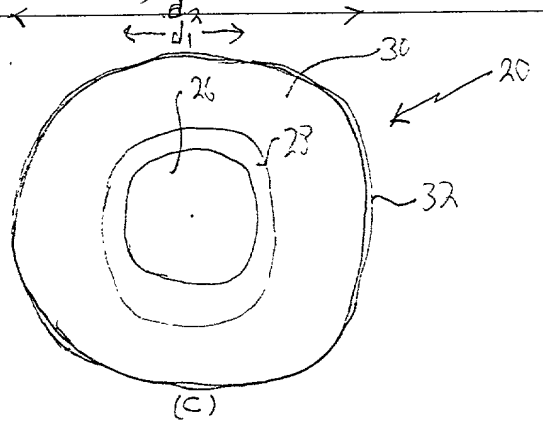

TRT=27.5ms
TDT=0.36 s
T_1=100°C
T_2=70°C
T_0=36°C
Temperature, °C
r, mm
(b)

Fig. 5


d
d_1
30
20
26
28
32
(c)

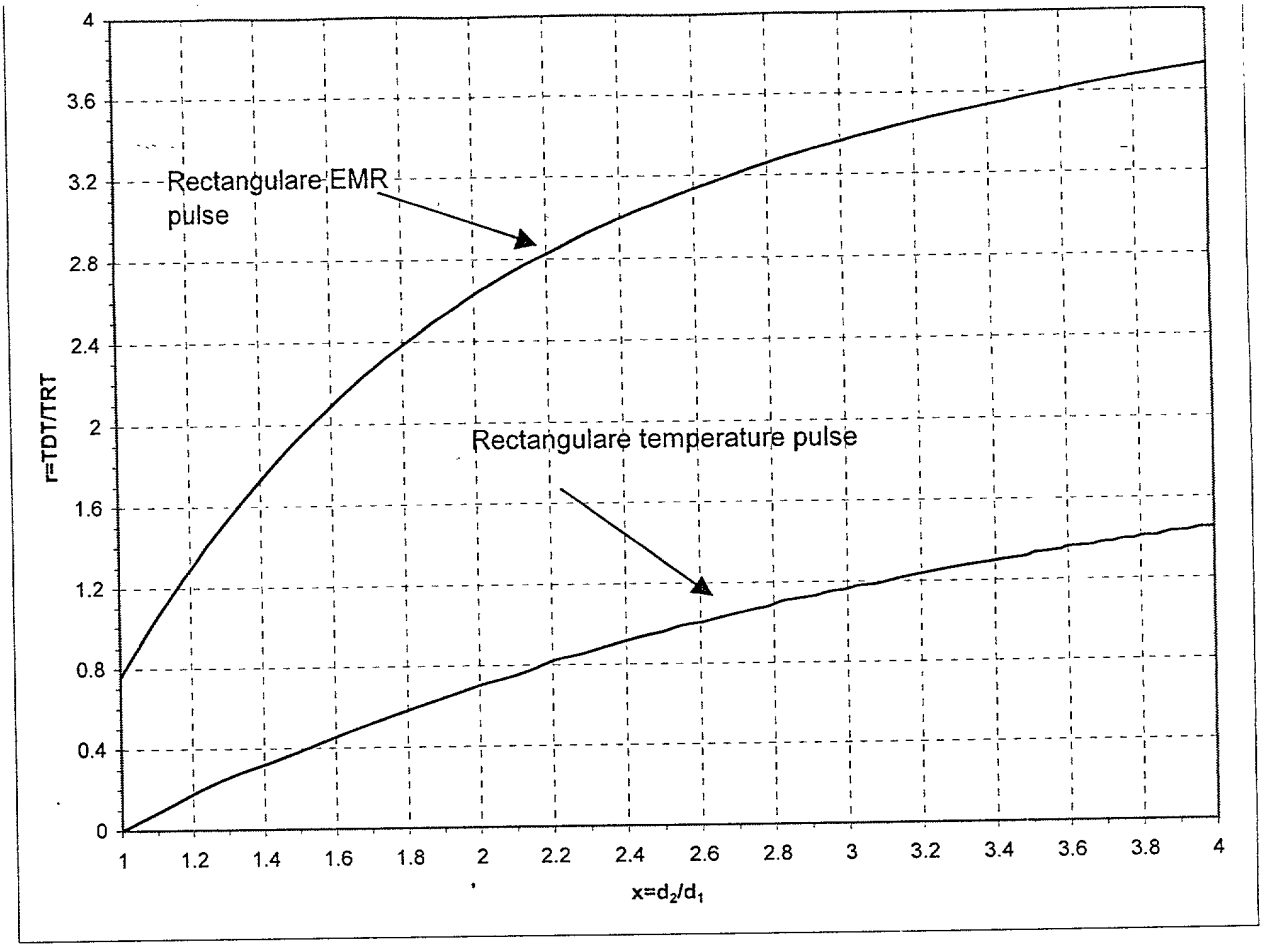

Rectangulare EMR pulse
Rectangulare temperature pulse
r=TDT/TRT
x=d2/d1
0
0.4
0.8
1.2
1.6
2
2.4
2.8
3.2
3.6
4
1
1.2
1.4
1.6
1.8
2
2.2
2.4
2.6
2.8
3
3.2
3.4
3.6
3.8
4

Fig. 5a.

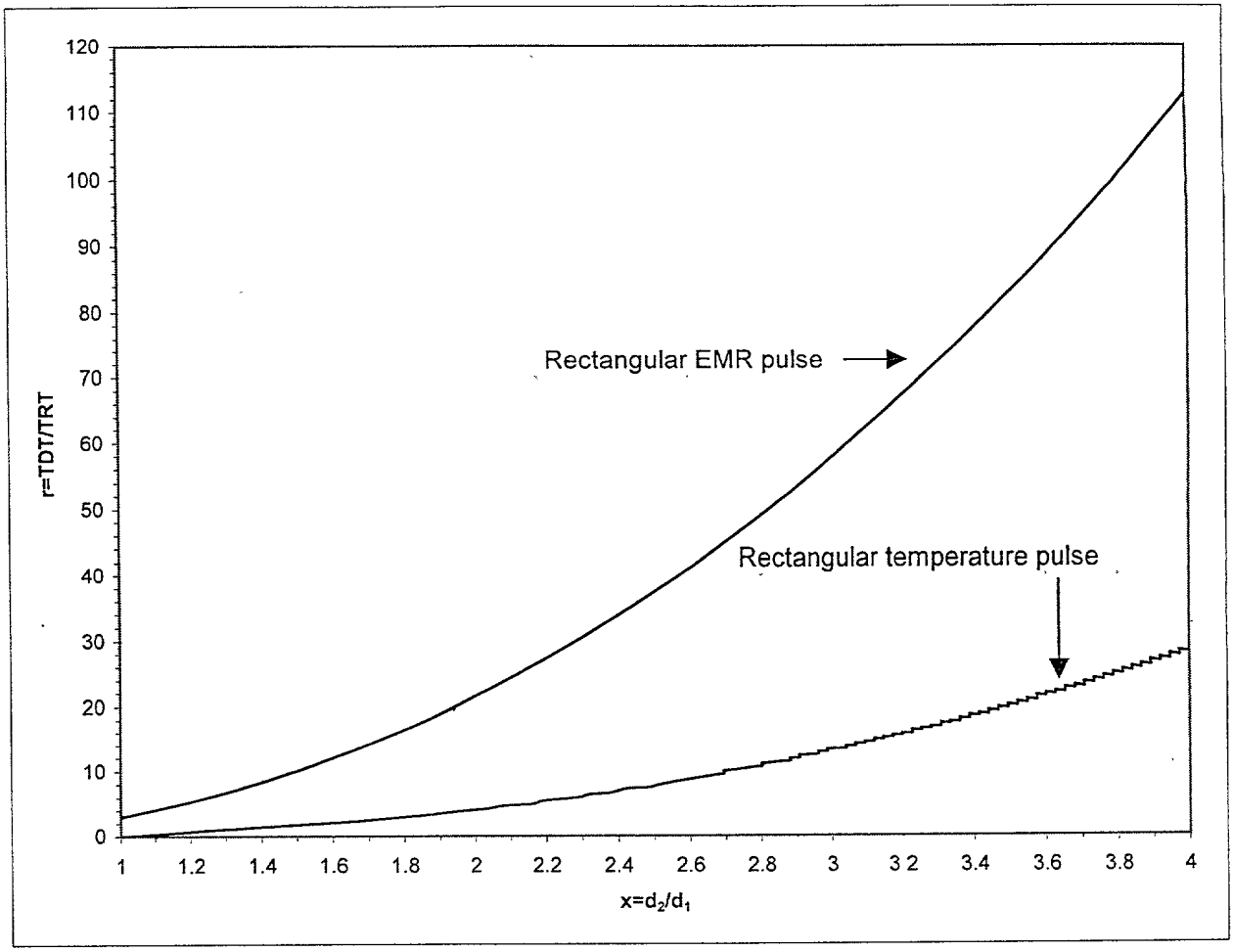

120
110
100
90
80
70
60
50
40
30
20
10
0
r=TDT/TRT
Rectangular EMR pulse
Rectangular temperature pulse
1
1.2
1.4
1.6
1.8
2
2.2
2.4
2.6
2.8
3
3 2
3.4
3.6
3.8
4
x=d2/d1

Fig. 6b.

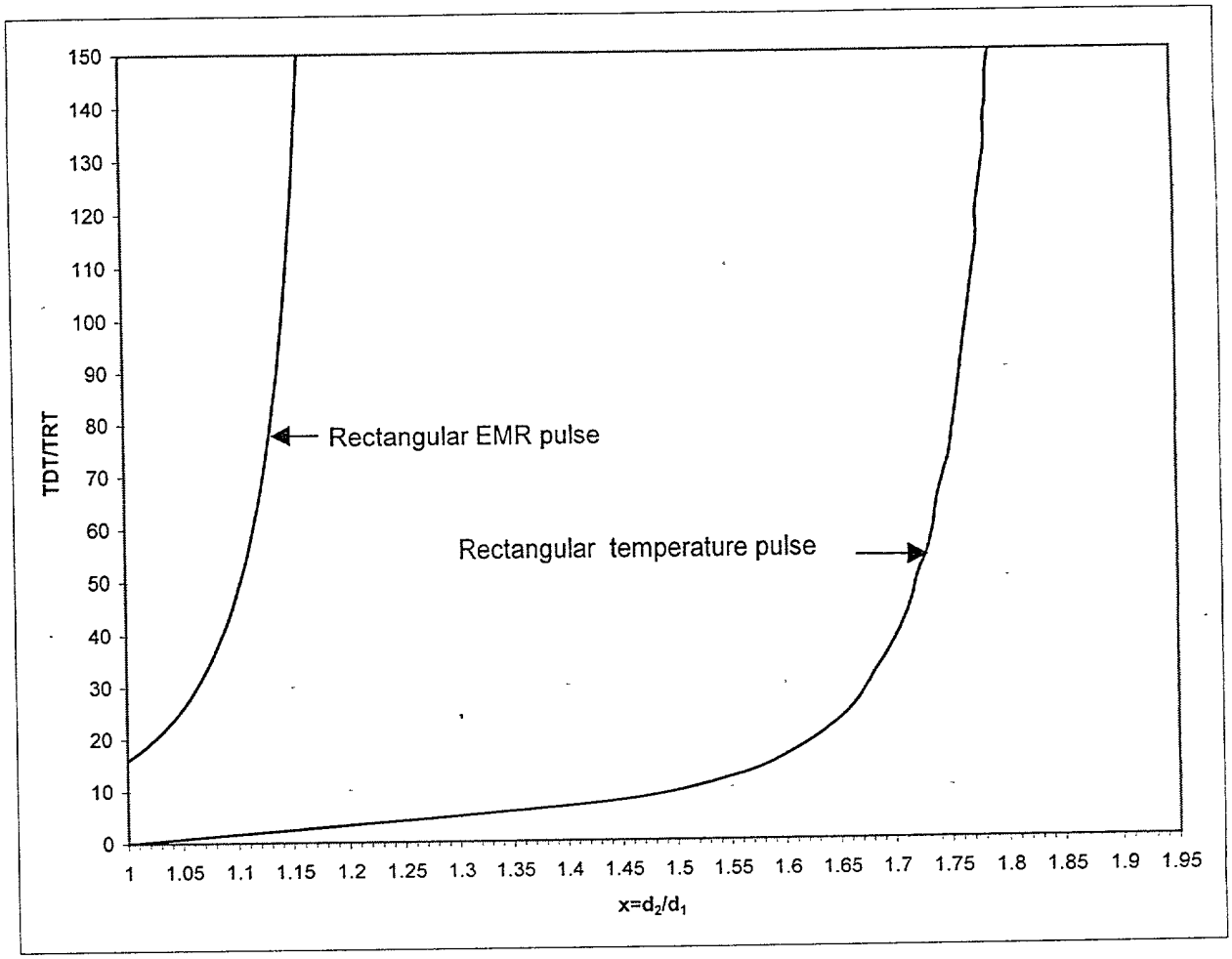

150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
TDT/TRT
Rectangular EMR pulse
Rectangular temperature pulse
1
1.05
1.1
1.15
1.2
1.25
1.3
1.35
1.4
1.45
1.5
1.55
1.6
1.65
1.7
1.75
1.8
1.85
1.9
1.95
x=d2/d1

Fig. 6c.

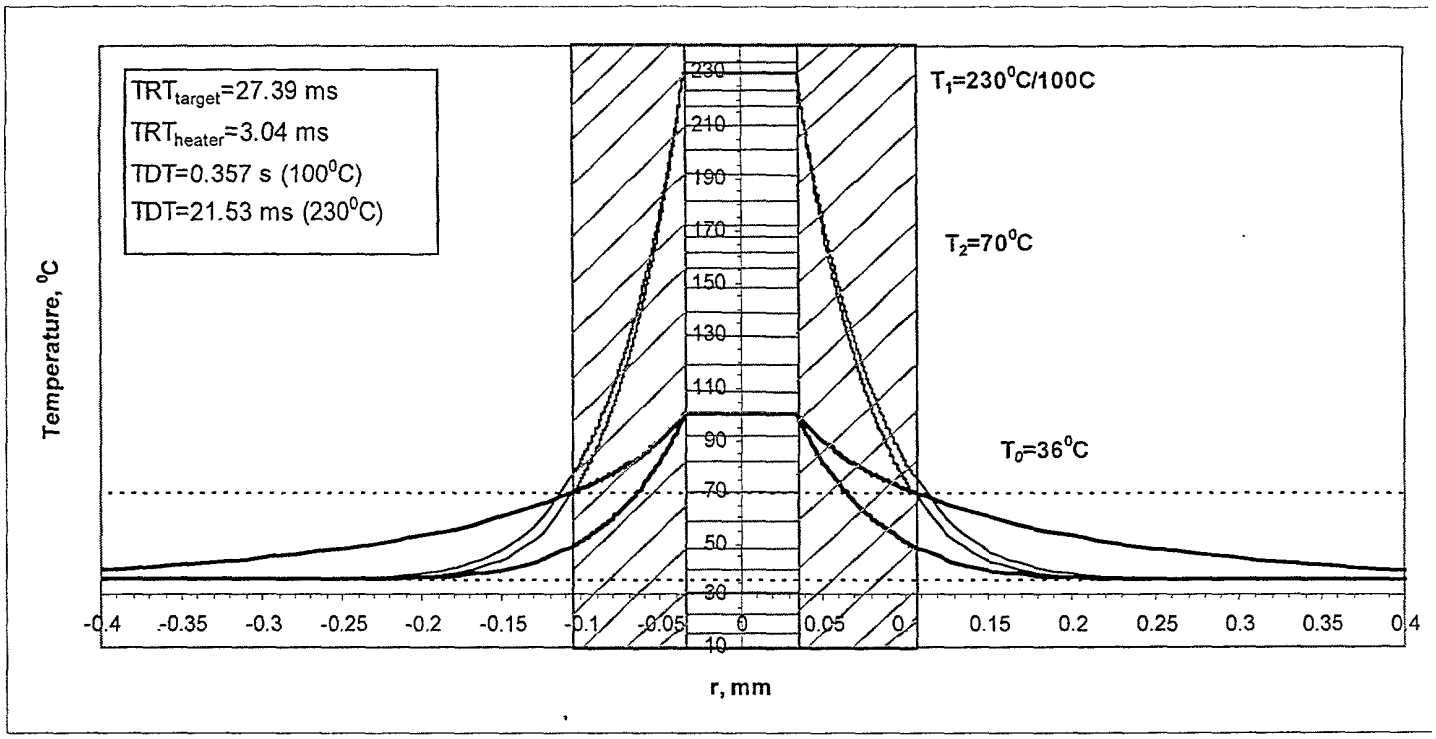

TRT$_{target}$=27.39 ms
TRT$_{heater}$=3.04 ms
TDT=0.357 s (100^{0}C)
TDT=21.53 ms (230^{0}C)
T$_1$=230^{0}C/100C
T$_2$=70^{0}C
T$_0$=36^{0}C
Temperature, ^{0}C
230
210
190
170
150
130
110
90
70
50
30
10
-0.4
-0.35
-0.3
-0.25
-0.2
-0.15
-0.1
-0.05
0
0.05
0
0.15
0.2
0.25
0.3
0.35
0.4
r, mm

Fig. 6

Temperature profile

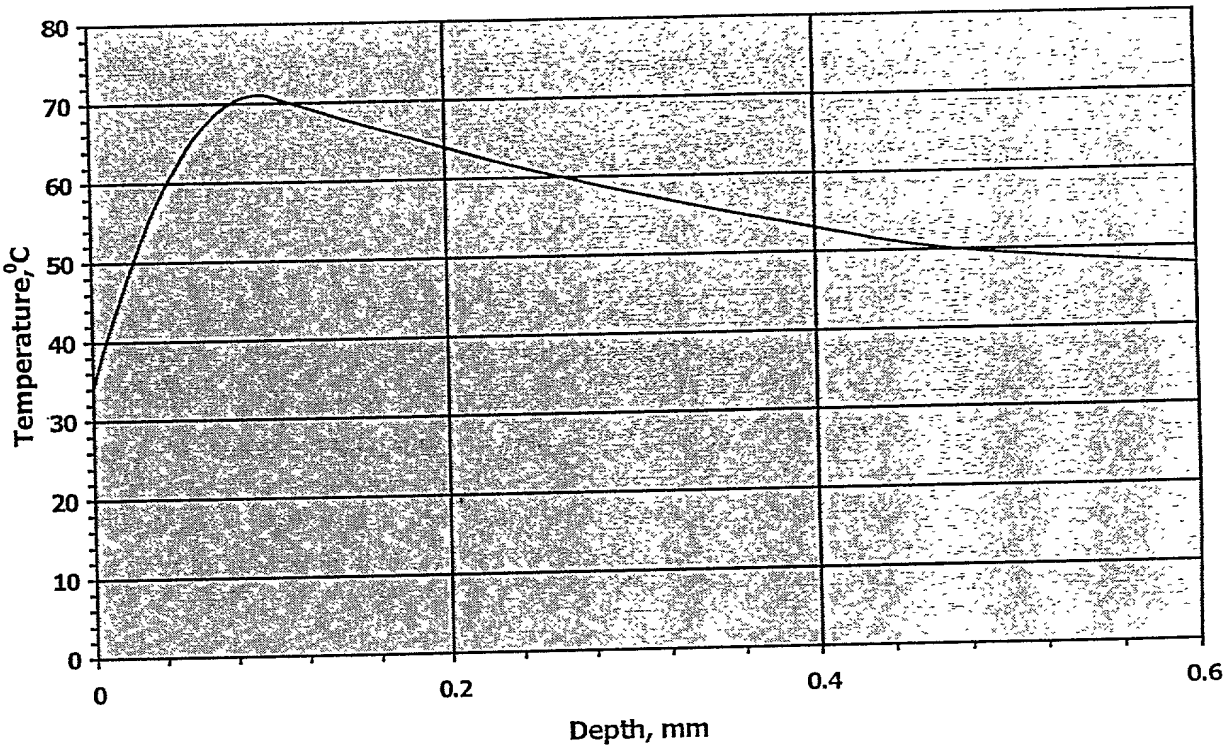


Fig. 8

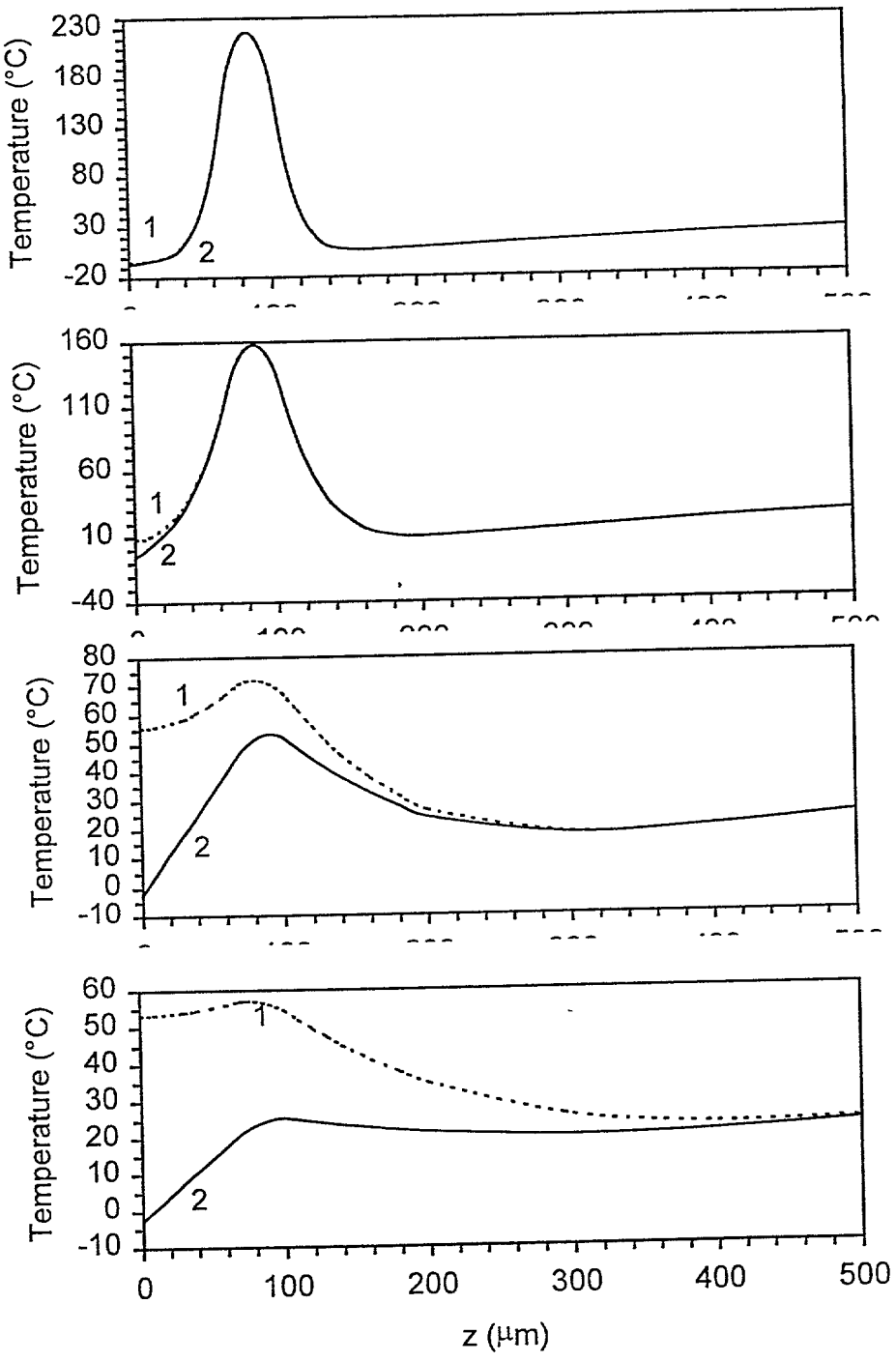


Fig. 9. . Skin temperature versus depth at the end of an optical pulse at λ=800 nm. Parallel cooling is turned off for the dashed curves (1) and is on for the solid ones

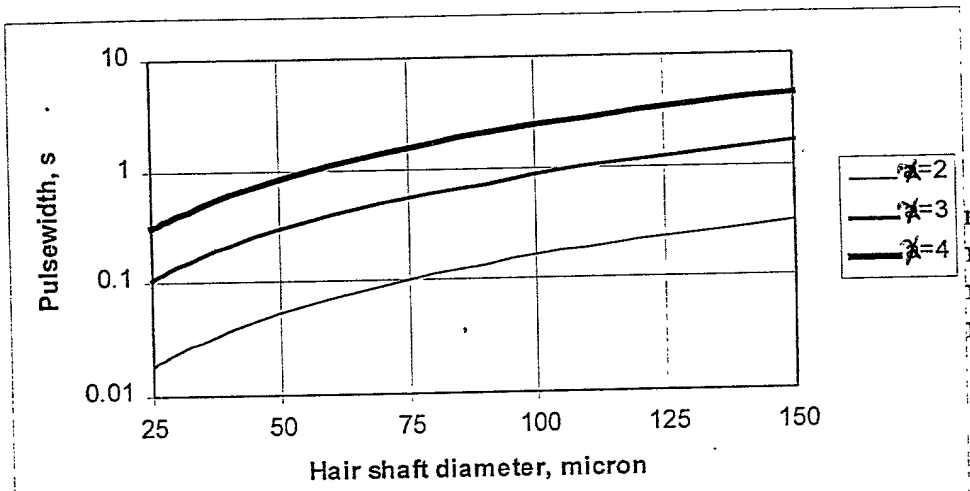


Fig. 2a. Low density of hairs.

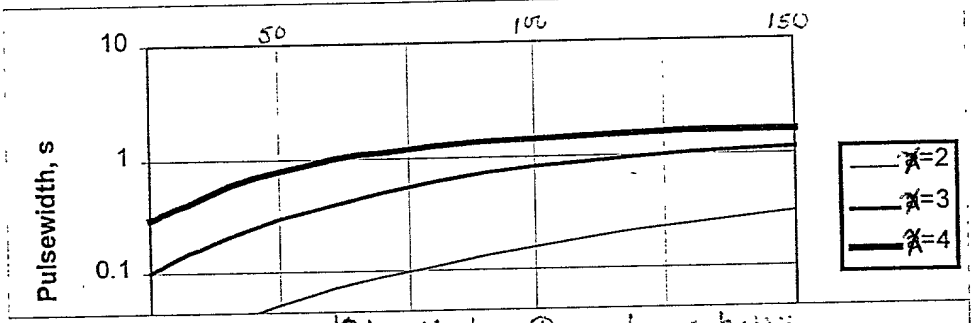


Fig. 2b. Medium Density of hairs

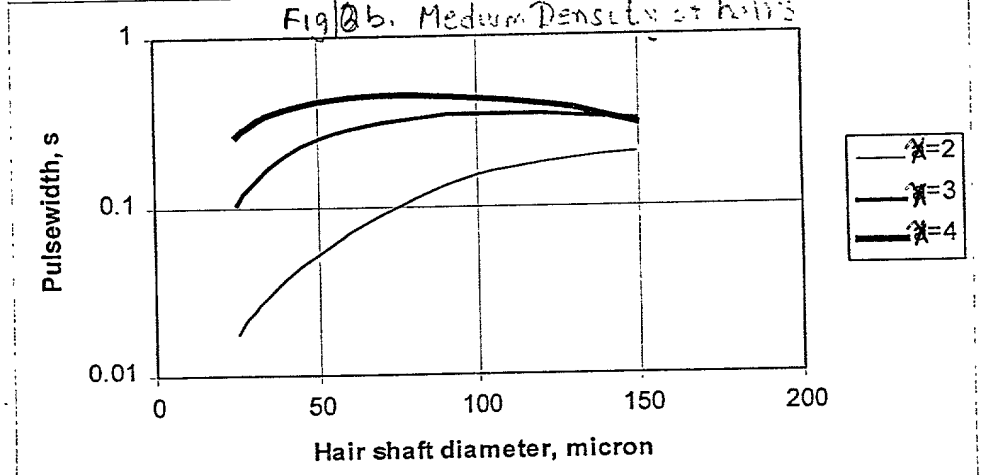


Fig. 2c. High density of hairs.

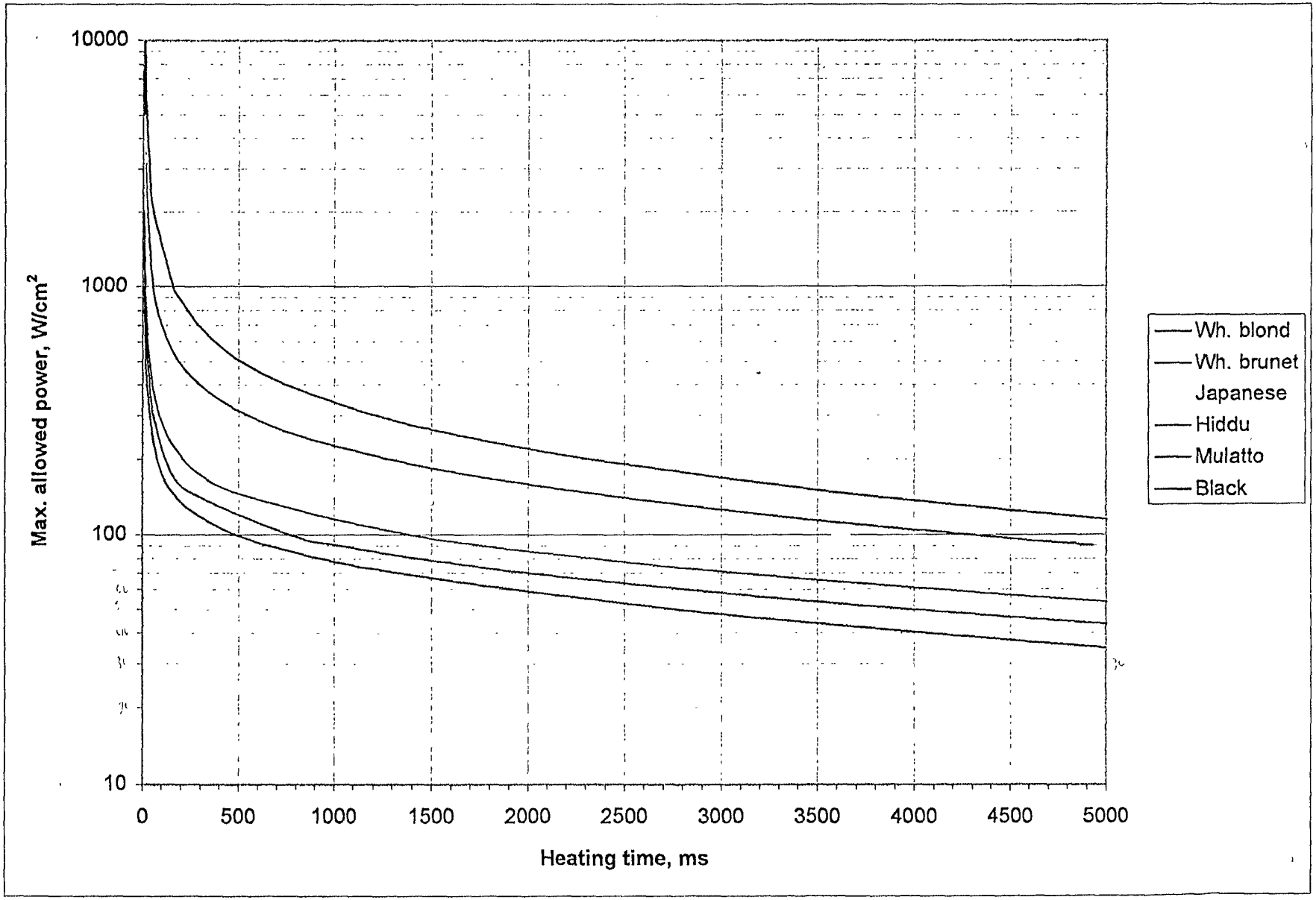

10000
1000
100
10
Max. allowed power, W/cm²
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Heating time, ms
Wh. blond
Wh. brunet
Japanese
Hiddu
Mulatto
Black

Fig. #1

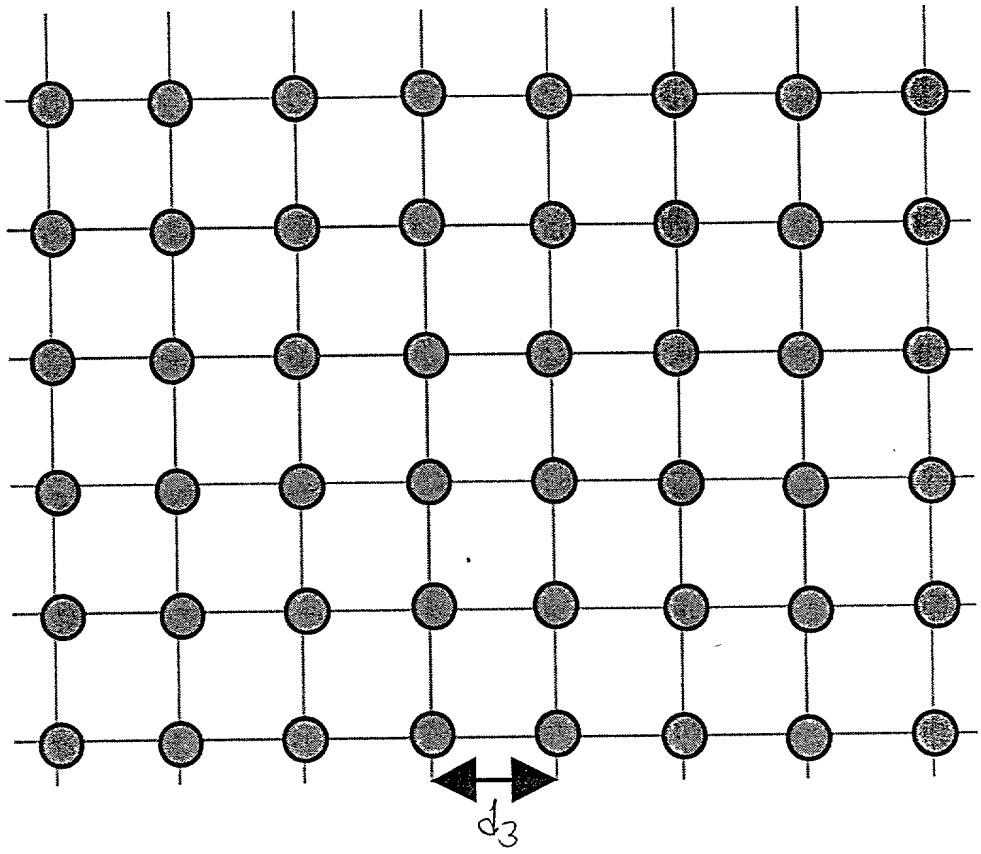


Fig.12

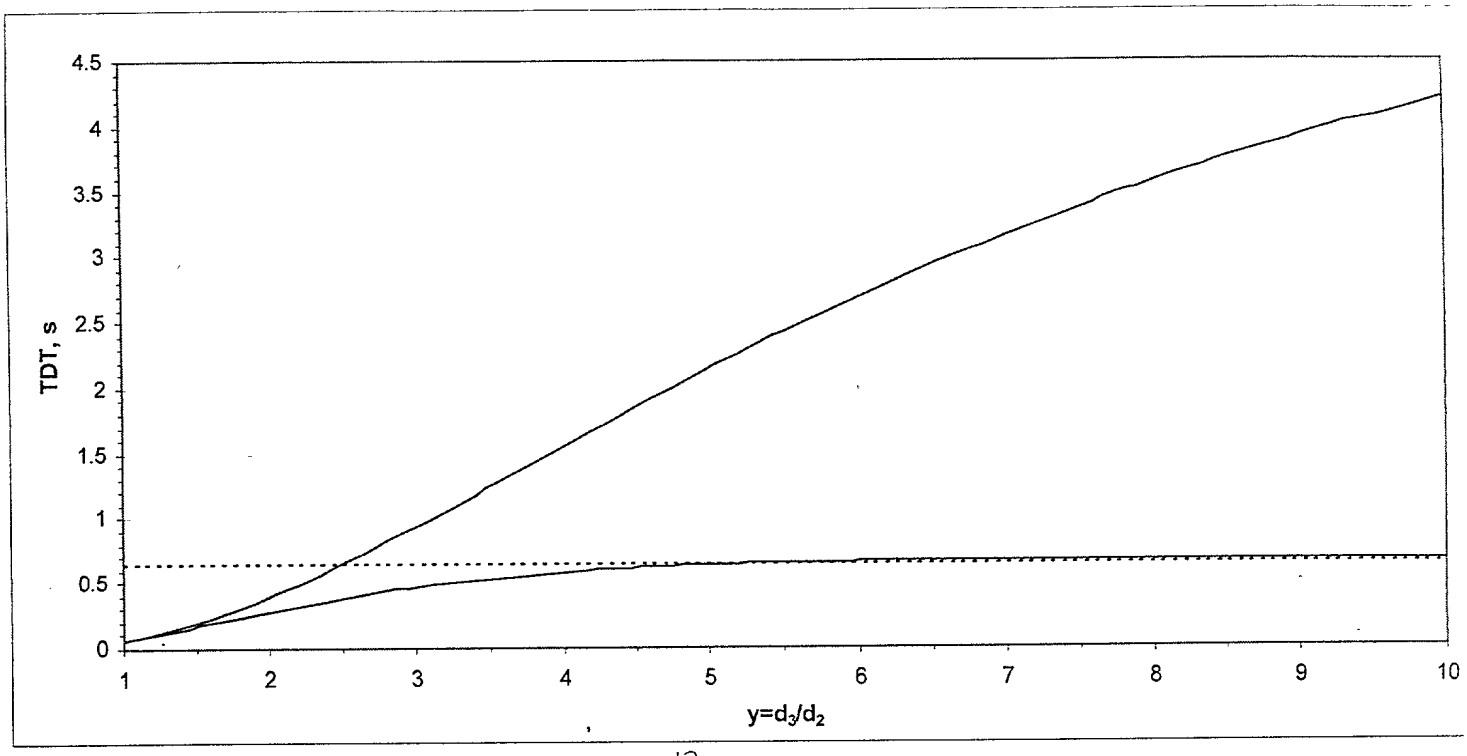
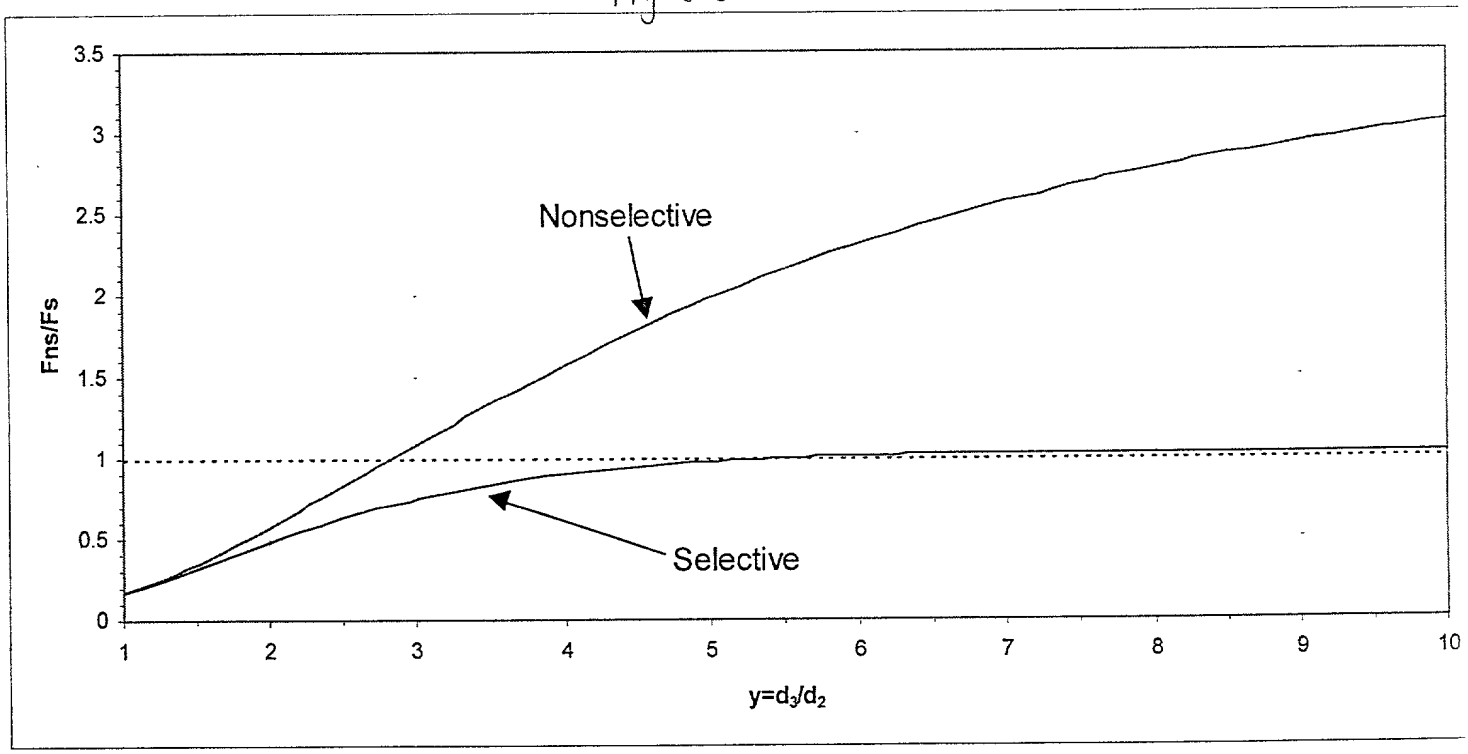


Fig 13a



~~Fig. 10a,b~~

Fig 13 b